AMENDMENTS TO THE CLAIMS

This listing of claims replaces all previous versions and listings of claims in this application.

Claim Listing:

1. (Original) An apparatus having switchable servo gains and offsets for an optical disk drive, comprising:

(a) a switch capable of transferring a servo signal to a first terminal or a second terminal of the switch according to a working status of the optical disk drive;

(b) a first gain circuit connected to the first terminal of the switch, including:

(1) a first offset for adjusting the offset value of the servo signal; and

(2) a first gain unit for adjusting the servo gain of the servo signal; and

(c) a second gain circuit connected to the second terminal of the switch, including:

(1) a second offset for adjusting the offset value of the servo signal; and

(2) a second gain unit for adjusting the servo gain of the servo signal, wherein the servo gain of the second gain unit is smaller than the servo gain of the first gain unit.

2. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the servo signal is a tracking error (TE) signal or a focus error (FE) signal.

3. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, further comprising a pre-amplifier connected to the switch for amplifying the servo signal.

4. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the switch is switched to the second terminal if a pick-up head included in the optical disk drive is in a seeking status.

5. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the switch is switched to the first terminal if a pick-up head included in the optical disk drive is in a tracking status.

6. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the switch is switched to the second terminal if a pick-up head included in the optical disk drive is in a blank area of an optical disk.

7. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the switch is switched to the first terminal if a pick-up head included in the optical disk drive is in a data area of an optical disk.

8. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the switch is switched to the first terminal if a pick-up head included in the optical disk drive is in a groove area of an optical disk.

9. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the switch is switched to the second terminal if a pick-up head included in the optical disk drive is in a land area of an optical disk.

10. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 1, wherein the first gain unit and the first offset of the first gain circuit are

separately determined by the comparison between a peak-to-peak interval on-line derived from a TE signal and a first default value and the comparison between a slice level on-line derived from the TE signal and a second default value.

11. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 10, wherein the gain value of the first gain unit is obtained by the quotient that the peak-to-peak interval is divided by the first default value.

12. (Original) The apparatus having switchable servo gains and offsets for an optical disk drive of Claim 10, wherein the offset value of the first offset is obtained by the difference between the slice level and the second default value.

13. (Currently amended) A method for switching servo gains and offsets for an optical disk drive, the method comprising ~~the steps of~~:

determining the location of a pick-up head on an optical disk having respective areas thereon with low and high reflective ratios;

outputting a signal ~~after the conversion from~~ obtained by multiplying a servo signal by a first gain ~~with a bigger gain~~ if the pick-up head ~~stays~~ is at a location with a low reflective ratio on the optical disk; and

outputting a normalized signal ~~referring to the outputting level of the first gain after the conversion from the servo signal~~ obtained by multiplying the servo signal by a second gain ~~with a smaller gain~~ smaller than the first gain if the pick-up head ~~stays~~ is at a location on the optical disk with a high reflective ratio ~~on the optical disk~~.

14. (Original) The method for switching servo gains and offsets for an optical disk drive of Claim 13, wherein the servo signal is a TE signal or a FE signal.

15. (Original) The method for switching servo gains and offsets for an optical disk drive of Claim 13, wherein the outputted servo signal is from the conversion of the first gain when the pick-up head is in a blank area, and the outputted servo signal is from the conversion of the second gain when the pick-up head is in a data area.

16. (Original) The method for switching servo gains and offsets for an optical disk drive of Claim 13, wherein the outputted servo signal is from the conversion of the first gain when the pick-up head is in a groove area, and the outputted servo signal is from the conversion of the second gain when the pick-up head is in a land area.

17. (Original) The method for switching servo gains and offsets for an optical disk drive of Claim 13, further comprising the step of:

determining the values of a first offset, a second offset, a first gain unit and a second gain unit by means of on-line or off-line detecting the servo signal.

18. (Currently amended) A method for switching servo gains and offsets for an optical disk drive, the method comprising ~~the steps of~~:

determining the location of a pick-up head on an optical disk based upon a reflective ratio on the optical disk;

outputting a signal after ~~the conversion from~~ converting a servo signal by a first gain ~~with a smaller gain~~ if the pick-up head is in a tracking status; and

outputting a normalized signal ~~referring to the outputting~~ with respect to a level of the ~~first gain after the conversion from the~~ converted servo signal by multiplying the servo signal by a second gain ~~with a bigger gain~~ less than the first gain if the pick-up head is in a seeking status.

19. (Original) The method for switching servo gains and offsets for an optical disk drive of Claim 18, further comprising the step of:

determining the values of offsets, the first gain and the second gain by means of on-line detecting the servo signal.

20. (Original) The method for switching servo gains and offsets for an optical disk drive of Claim 18, further comprising the step of:

determining the values of offsets, the first gain and the second gain by means of off-line detecting the servo signal.

21. (New) A method for switching servo gains and offsets for an optical disk drive, the method comprising:

determining a working status of a pick-up head based upon a reflective ratio on the optical disk; and

selectively processing a servo signal from the pick-up head in response to the determined working status of the pick-up head,

wherein the servo signal is amplified by a first gain when the pick-up head is in a tracking status and the servo signal is amplified by a second gain less than the first gain when the pick-up head is in a seeking status.

22. (New) The method of claim 21, further comprising outputting a normalized control signal comprising the servo signal amplified by the second gain when the pick-up head is in a seeking status.

23. (New) The method of claim 22, further comprising driving the pick-up head by

using the normalized control signal.

24. (New) The method of claim 21, further comprising outputting a control signal comprising the servo signal amplified by the first gain when the pick-up head is in a tracking status.

25. (New) The method of claim 21, further comprising selectively adding an offset to the servo signal in response to the determined working status of the pick-up head.